UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,747	04/15/2004	Michael L. Fowler	112055-0079U	7028

24267 7590 09/06/2005

CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER	
NGUYEN, JOHN B	
ART UNIT	**PAPER NUMBER**
2819	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,747	FOWLER ET AL.	
	Examiner	Art Unit	
	John B. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-52 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,2,4-14,16-21,23-33 and 35-52 is/are rejected.

7)☒ Claim(s) 3,15,22 and 34 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08/23/2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 06/08/2005
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 39, 43 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 40 and 44. See MPEP § 608.01(n). Accordingly, the claims 40 and 44 not been further treated on the merits.

2. Claims 47, 48 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 47 and 48. See MPEP § 608.01(n). Accordingly, the claims 40 and 44 not been further treated on the merits.

3. Claim 19, "the serializer/de-serializer of claim 17" should be "the serializer/de-serializer of claim 18".

4. Claim 41, "the de-serializer as defined in claim 11" should be "the serializer as defined in claim 11".

5. Claim 45, "the de-serializer as defined in claim 11" should be "the serializer as defined in claim 11".

6. Claim 46, "the serializer as defined in claim 18" should be "the serializer/de-serializer as defined in claim 18".

7. Claim 49, "the de-serializer as defined in claim 11" should be "the serializer as defined in claim 11".

8. Claim 50, "the serializer as defined in claim 18" should be "the serializer/de-serializer as defined in claim 18".

9. Claim 52, "gropupd" should be "group" and delete first word "comprising".

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1-52 are rejected under 35 U.S.C. 102(a) as being anticipated by APPLICANT'S PRIOR ART (APA).

12. Claims 1-52, Figs.1-6 of APA disclose a serializer/de-serializer.

Regarding to claims 1, 20, 39, 43, 47, 51, 52, Figs.1-6, APA disclose a serializer for sending a data word out bit by bit, the serializer comprising: a register (20) for holding the data word, the register having at least one data output (output from 20) and a control input (18), an output data port for serially outputting the data word bit by bit (SERIAL DATA OUT), means for connecting the data output to the output data port (fig.1), a pulse generator (16) free of external timing reference, means for connecting the pulse generator to the control input after a data word has been loaded into the register (20), wherein the data word bits are serially output in response to the pulse generator (16 control data out), and means for outputting signals from the pulse generator to define the serially output data word bits (18).

13. Regarding to claims 2, 21, further comprising means for outputting a data word boundary for separating data words, the data word boundary comprised of a combination of pulse generator signals and signals added to the serially output data word bits (fig.3 is combined fig.1 and fig.2).

14. Regarding to claims 4, 23, wherein the register is a shift register (20).

15. Regarding to claims 6, 25, further comprising means for loading the register from a parallel bus (fig.6).

16. Regarding to claims 7, 26, wherein the pulse generator signals, that define the serially output data word bits, provide a logic transition that defines when the data word bits being sent out are stable (fig.1).

17. Regarding to claims 8, 27, wherein the pulse generator runs at twice the data bit rate wherein the data bits are shifted out on one pulse edge and the following pulse edge defines when the data word bits being sent out are stable (fig.4).

18. Regarding to claims 9, 28, further comprising a load signal (18) that loads the data word bits into the register (20), a synchronizer (CLK 14) that synchronizes the pulse generator (PLL 16) to the load signal, so that the data word bits are stable in the register before they are output.

19. Regarding to claims 10, 29, further comprising: means for connecting the pulse generator output to one or more additional register for holding additional data words (fig.1), wherein the additional data words are delivered to one or more additional output ports and serially output in response to the pulse generator, and further where in signals from the pulse generator are output that define the output data word bits (fig.3).

20. Regarding to claims 11, 30, 41, 45, 49, further comprising a load signal (18) that loads the data word bits into the register, means for enabling the pulse generator with the load signal, wherein the pulse generator provides a stream of pulses sufficient to output the data word after the data word bits are stable in the register (fig.3).

21. Regarding to claims 12, 31, further comprising: means for detecting a change in the data word to be sent, and in response thereto, causing the data word bits to be output via the output data port (fig.3).

22. Regarding to claims 13, 32, a de-serializer arranged to receive a data word bit by bit, the de-serializer comprising: a serial input port (SERIAL DATA IN) for receiving the data word bit by bit, a register (32) for storing the data word bits, the register having a data input (30) and a control input (38), means for connecting the serial input port to the register data input (30), a pulse generator (36) receiving port for receiving pulses that defines the data word bits, means for connecting the received pulses to the control input, wherein the data word bits are serially received and stored in the register (fig.2).

23. Regarding to claims 14, 33, further comprising means for detecting a data word boundary that separates data words, the data word boundary comprised of a combination of signals on the pulse generator receiving port and the signals on the serial input port (fig.3).

24. Regarding to claims 16, 35, wherein the register for storing data is a shift register (32).

25. Regarding to claims 17, 36, further comprising means for reading the register contents via a parallel port (fig.6).

26. Regarding to claims 18, 37, 42, 46, 18, a serializer/de-serializer for sending a data word out bit by bit and for receiving a data word bit by bit, the serializer/de-serializer comprising: a first register (20) for holding the data word, the first register having at least one data output (output from 20) and a first control input (18), an output data port for serially outputting the data word bits by bit (SERIAL DATA OUTPUT), means for connecting the first register at least one data output to the output data port (20 to SERIAL DATA OUTPUT), a pulse generator (PLL 16)

free of external timing reference, means for connecting the pulse generator (16) to the first control input (18) after a data word has been loaded into the first register (20), wherein the data word bits are serially output in response to the pulse generator (PLL 16 control shift register 20), means for outputting signals from the pulse generator (18) that define the serially output data word bits, a serial input port (SERIAL DATA IN) for receiving the data word bit by bit, a second register (32) for storing the data word bits, the second register having a data input (30) and a control input (38), means for connecting the serial input port (SERIAL DATA IN) to the second register data input (32), a pulse generator (PLL 36) receiving port for receiving pulses that defines the data word bits, means for connecting the received pulses to the control input (38), wherein the data word bits are serially received and stored in the second register (32).

27. Regarding to claim 19, the serializer/de-serializer of claim 18 further comprising: means for detecting a change in the data contents of the first register, and in response thereto, causing the data word bits to be output via the output data port and data outputs from the second register wherein the second register contents are available (fig.3).

28. Regarding to claim 38, the process of claim 37 further comprising the steps of:

detecting a change in the data word to be sent, and in response thereto, causing the data word bits to be output via the output data port (fig.3), and reading the second register contents via a parallel port (fig.6).

ALLOWABLE SUBJECT MATTERS

29. Claims 3,15,22 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as well as including all corrections of claim objection stated

above.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See enclosed Form PTO-892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B Nguyen whose telephone number (571) 272-1808. The examiner can normally be reached on 8AM-4: 30 PM M-F.

John B. Nguyen
September 01, 2005